

DIVIDING POLYNOMIALS ch. 7.3 p. 442-  
p. 446 #81

$$\begin{array}{r} x+2 \\ x+2 \overline{) x^2+4x+4} \\ \underline{-(x^2+2x)} \phantom{+4} \\ -2x+4 \\ \underline{2x+4} \\ 0 \end{array}$$

$$(x^2+4x+4) \div (x+2) = (x+2) - (x+2)$$

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$$\begin{array}{r} x^2-x-6 \\ x+1 \overline{) x^3-7x-6} \\ \underline{-(x^3+x^2)} \phantom{-6} \\ -x^2-7x-6 \\ \underline{-(-x^2-x)} \phantom{-6} \\ -6x-6 \\ \underline{-(-6x-6)} \\ 0 \end{array}$$

$$\begin{aligned} & -x^2-7x-6 - (-x^2-x) = \\ & = -x^2-7x-6+x^2+x \end{aligned}$$

$$\begin{array}{r}
 \textcircled{x+5} \\
 x^2-2x-3 \overline{) x^3+3x^2-13x-15} \\
 \underline{x^3-2x^2-3x+0}
 \end{array}$$

$$\begin{array}{r}
 5x^2-10x-15 \\
 \underline{5x^2-10x-15} \\
 0
 \end{array}$$

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$$\begin{array}{r} x^2 + 3x \\ \hline 2x-3 \overline{) 2x^3 + 3x^2 - 6x - 3} \\ \underline{2x^3 - 3x^2} \phantom{- 6x - 3} \\ 6x^2 - 6x - 3 \\ \underline{6x^2 - 9x} \phantom{- 3} \\ 3x - 3 \end{array}$$

$$7 \div 3 = 2 (R1)$$

$$7 \div 3 = 2\frac{1}{3}$$

$$= \left( x^3 + 3x + \frac{3x-3}{2x-3} \right)$$

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$$\begin{array}{r} x^2 - x + 4 \\ x+1 \overline{) x^3 + 3x + 4} \\ \underline{-x^3 + x^2} \phantom{+ 4} \\ -x^2 + 3x + 4 \\ \underline{-x^2 - x} \phantom{+ 4} \\ 4x + 4 \\ \underline{-4x + 4} \\ 0 \end{array}$$

$$3x + 4 - (-x) = 4x + 4$$